

REMARKS

Claims 1-8, as amended, remain herein.

Claims 1, 2 and 7 have been amended more clearly to recite the band-pass circuit structure and its operation, and also a controlling section for simultaneously causing a surround effect circuit to switch on and off the surround effect and the band-pass circuits to switch on and off the band-pass, so that switching the surround effect circuit causes the surround effect to be produced on the outputted audio signal and the midrange of the audio signal frequency band containing speech to be outputted at a high gain, i.e., localizing speech while at the same time outputting audio surround effects. See the specification at page 7, line 29, to page 8, line 25.

Minor, editorial changes have been made in claims 1-7.

Claim 8 depending from claim 2 has been added, reciting a limitation deleted from claim 2.

1. Objections were stated to the drawings for allegedly not illustrating all of the claim elements. Submitted herewith are copies of Figures 3 and 4 revised to show reference number 19 and a connection between band-pass circuit

1 and matrix surround circuit 1. Withdrawal of the objection to the drawings is respectfully requested.

2. The Abstract has been amended.

3. Objections were stated to the specification for a typographical error, which has been amended.

4. Objections were stated to claims 4-6. The word "interlockingly" has been deleted. Claim 4 has been amended to make the preamble of claim 4 consistent with the preamble of claim 1.

5. Claims 1-3 were rejected under 35 U.S.C. §103(a) over Hirasawa U.S. Patent 5,197,099 and Okamoto U.S. Patent 5,418,856.

The presently claimed audio signal controller for inputting and outputting a two-channel audio signal comprises (1) a surround effect circuit for switching on and off and outputting a surround effect of such an inputted two-channel audio signal, (2) band-pass circuits each defining a corresponding channel for switching a midrange of an audio signal frequency band having such two-channel audio signal,

between a band-pass on state having a frequency characteristic for providing an output at a higher gain than bass and treble ranges and a band-pass off state having a flat frequency characteristic between the base and treble ranges, the midrange of the audio signal frequency band containing speech; and (3) a controlling section for simultaneously causing the surround effect circuit to switch on and off the surround effect and the band-pass circuits to switch on and off the band-pass, so that when the controlling section switches on the surround effect, the surround effect is produced on the outputted audio signal and the midrange of the audio signal frequency band containing speech is outputted at a high gain. This arrangement is nowhere disclosed or suggested in the cited references.

The effect of the presently claimed invention, despite having only a two-channel output, is for a stereo movie source audio input having speech in combination with other audio, to produce a clear speech/voice and at the same time a surround sound effect, wherein the speech/voice is fixed in the middle of the image (movie screen), thereby achieving positional correspondence with the image, while the remaining audio effects are reproduced as surround sound effects.

The Office Action cites Hirasawa '099 as allegedly disclosing a surround effect, but admits that Hirasawa '099 does not disclose a band-pass circuit, and cites Okamoto '856 as allegedly disclosing band-pass circuits for controlling center frequency and sound volume.

The Office Action suggests that because Hirasawa '099 discloses a circuit for operating and switching among various output channel configurations, some of which include a type of filtering, it allegedly would have been obvious to modify the Hirasawa '099 system to include the band-pass filters of Okamoto '856. However, Okamoto '856 does not provide any motivation to use band-pass filter circuits in conjunction with surround sound, nor any motivation to use them in some type of switching circuit that switches between a band-pass circuit on state having a frequency characteristic for providing an output at a higher gain than bass and treble ranges, and a band-pass off state having a flat frequency characteristic between the base and treble ranges, the midrange of the audio signal frequency band containing speech.

There is no motivation disclosed or suggested in Okamoto '856 teaching or suggesting such switched use of specific band-pass circuits, or discussing the benefits or desirability of applying such band-pass circuits to a surround effect

circuit, such as the circuit disclosed by Hirasawa '099. The claimed invention arises only in applicants' disclosure and cannot be found in the prior art without improper hindsight reference to applicants' disclosure.

Moreover, neither Hirasawa '099 or Okamoto '856 discloses or suggests a controlling section for simultaneously causing the surround effect circuit to switch on and off the surround effect and the band-pass circuits to switch on and off the band-pass, so that when the controlling section switches on the surround effect, the surround effect is produced on the outputted audio signal and the midrange of the audio signal frequency band containing speech is outputted at a high gain, as recited in applicants' claims. There is no disclosure, other than in applicants' disclosure, of simultaneous switching of such conditions.

Hirasawa '099, Figs. 2A,2B, show a circuit for switching on and off a surround effect circuit and controlling individual channels of such circuit, but Hirasawa '099 does not disclose anything about a controlling section for simultaneously causing the surround effect circuit to switch on and off the surround effect and band-pass circuits to switch on and off the band-pass, so that when the controlling section switches on the surround effect, the surround effect

is produced on the outputted audio signal and the midrange of the audio signal frequency band containing speech is outputted at a high gain.

The Office Action cites Okamoto '856 as allegedly teaching a band-pass circuit. However, Okamoto '856 says nothing about application of such band-pass circuits in conjunction with a surround effect circuit, or that it would be desirable to use such band-pass circuits in a switching function. Conversely, Hirasawa '099 does not disclose anything about switching between a sound effect circuit and a band-pass circuit. Only applicants' disclosure provides such a workable combination of structure, as recited in claims 1, 2 and 7.

For the foregoing reasons, neither Hirasawa '099 or Okamoto '856 contains any teaching, suggestion, reason, motivation or incentive that would have led one of ordinary skill in the art to applicants' claimed invention. Nor is there any disclosure or teaching in either of these references that would have suggested the desirability of combining any portions thereof effectively to anticipate or suggest applicants' presently claimed invention. Claim 3, which depends from claim 1, is allowable for the same reasons

described herein for claim 1. Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

6. Claims 4-7 were rejected under 35 U.S.C. §103(a) over Hirasawa '099, Okamoto '856 and Heo et al. U.S. Patent 5,987,417.

Claims 4-6, which depend from claim 1, are allowable for the same reasons described herein for claim 1, and claim 7, reciting all of the limitations of claim 1, is allowable for the same reasons described herein for claim 1.

Moreover, Heo '417, cited in the Office Action for allegedly teaching discriminating a DVD video, does not provide the deficiencies of Hirasawa '099 and Okamoto '856 described herein.

For the foregoing reasons, none of Hirasawa '099, Okamoto '856 or Heo '417 contains any teaching, suggestion, reason, motivation or incentive that would have led one of ordinary skill in the art to applicants' claimed invention. Nor is there any disclosure or teaching in any of these references that would have suggested the desirability of combining any portions thereof effectively to anticipate or suggest applicants' presently claimed invention. Accordingly,

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reconsideration and withdrawal of this rejection are respectfully requested.


All claims 1-8 are now proper in form and patentably distinguished over all grounds of rejection cited in the Office Action. Accordingly, allowance of all claims 1-8 is respectfully requested.

Should the Examiner deem that any further action by the applicants would be desirable to place this application in even better condition for issue, the Examiner is requested to telephone applicants' undersigned representatives.

Respectfully submitted,

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Date


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Attachment: Annotated Sheets Showing Changes (Fig.3 & Fig. 4)
Replacement Sheets (Fig3 & Fig. 4)

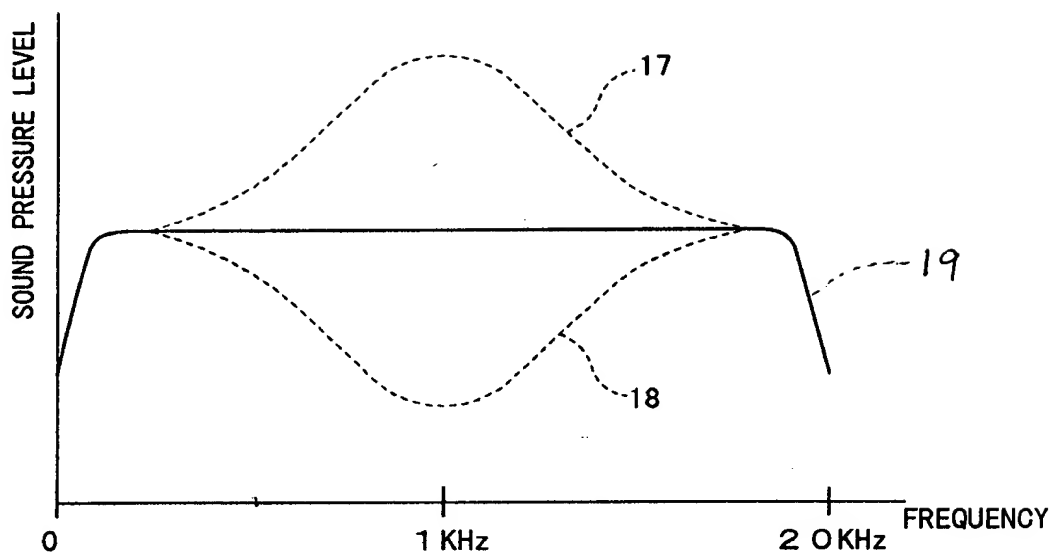
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FIG. 3





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FIG. 4

